Noble (C. P.)

THE RELATIONS OF URINARY CONDITIONS TO GYNÆCOLOGICAL SURGERY.

BY

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REPRINT FROM

American Medico-Surgical Bulletin,

October, 1893.

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THE RELATION OF URINARY CONDITIONS TO GYNÆCOLOGICAL SURGERY.*

By CHARLES P. NOBLE, M.D.

IT gives me great pleasure to be with you this evening, to listen to the paper by Dr. KELLY, and to participate in its discussion. The subject is one in which I have been interested for a long time. Early in my career as an operator, I had three deaths from suppression of urine following operation, which fact impressed upon me the important relation between the condition of the kidneys and the successful issue of operations. I shall discuss the points made by Dr. Kelly *seriatim*, and from the standpoint of the practitioner, rather than that of the pathologist.

1. *That albumin is often observed in the urine of gynæcological patients.*

It is my custom to have the urine of every patient examined several times prior to operation,—if possible to have it examined at intervals of several days. The results of this work amply bear out Dr. Kelly's statement that albumin is often observed in the urine of gynæcological patients. In my experience, about 10% of such patients have albuminuria.

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* Read before the Obstetric and Gynæcological Section of the N. Y. ACADEMY OF MEDICINE.

2. *That its presence is often not significant.* I agree entirely with the reader of the paper upon this point, also. In general medicine we have learned that albuminuria is by no means necessarily of serious import. Frequently, it is of transient character due to acute conditions, from which the patient entirely recovers. This is more often true among gynæcological patients. Unless the urine be drawn by catheter, the presence of albumin in the urine may only mean that a certain amount of vaginal discharge, or perhaps menstrual discharge, has become mixed with the urine. Hence, the rule must be followed that the urine of female patients, intended for examination, should be drawn by the catheter. When this is not feasible, the patient should be directed to give herself a vaginal douche, and to wash the external genitals before passing her urine. In this way fairly accurate results can be obtained.

Eliminating such external sources of contamination, albumin in the urine of women may be due simply to bladder irritation, or to cystitis. A careful microscopical examination showing the presence of pus and bladder epithelium, together with its normal specific gravity, would show that the albumin was due to bladder trouble, and not to renal disease. Albuminuria due to ureteral disease (including pyelitis) is not so easy to determine,—unless, indeed, the study of

such cases by means of the ureteral catheter (which subject has been brought to the attention of the American practitioner largely through the labors of Dr. Kelly) shall make this question clear. Albuminuria of renal origin is not always significant. At times, it is not accompanied by the presence of tube casts in the urine, and is of an intermittent character; in such cases being due probably not so much to renal disease as to some interference in the metabolism of the nitrogenous food-products. I have had several such cases, and have recently done a cœliotomy upon one, in which large quantities of albumin were present one day, and the following day the urine would be absolutely normal. The urinary condition was not at all influenced by the operation. Repeated examinations in this case showed the absence of tube casts, and I believe that the kidneys are perfectly sound. One class of cases in which the albuminuria of renal origin is not significant is that in which it is due to the presence of large tumors. Here the presence of albumin is due to the pressure of the tumor.

3. *That tube casts are not always significant.*

Here, also, my experience tallies with that of Dr. Kelly, provided great stress is laid upon the word "always." In cases of large tumors, even the presence of casts in the urine does not signify that the patient will not recover from the operation. In

many such cases, the condition of the kidneys is directly due to the presence of the tumor, and when this is removed such patients often get surprisingly well and the kidneys become practically normal. But such cases require the most careful consideration, in my judgment. Repeated examinations of the urine to determine, not only the presence of albumin, casts, and sugar, but also the specific gravity of the urine, and the amount of urea and other solids it contains, are of the greatest importance. Should such examinations show the existence of gross structural disease in the kidneys, and indicate the early death of the patient from the kidney disease, it may be questionable in such cases whether it is wise or justifiable to operate. The presence of "chronic contracted kidneys" is apt to get the surgeon into serious trouble. In such cases, not infrequently albumen is absent, or only occasionally present, and then in very small quantities. Tube casts may be absent, or, at least, the most careful examinations will at times fail to reveal them. If repeated examinations of the urine show occasional presence of small quantities of albumin and of granular casts, and a low specific gravity, the surgeon should be on his guard. A woman having such kidneys will not stand a serious and prolonged operation. She will die from shock or from suppression of urine.

I will draw attention presently to certain practical divisions of cases having kidney disease. I believe that the prognosis after operation is most favorable in women having fairly large tumors, especially ovarian-cysts. Here, in general, the operation may be conducted quickly and easily, and no septic material is present. When the pressure of the tumor is removed, this aids the crippled kidneys, and the result usually is that they secrete as much, or even more, urine than normal kidneys. An illustrative case will be given.

When the cysts are small,—or, in other words, when the kidney disease has no relation to the tumors,—the prognosis depends entirely upon the amount and character of the kidney disease. The factor of the removal of intra-abdominal pressure will not come into play in this class of cases.

In cases of tubo-ovarian inflammation, especially of marked character, in women whose health is entirely broken-down, the prognosis is very bad, when the renal disease is of a serious character. (Of course, the mere presence of albumin in the urine, due to bladder trouble, would not influence the prognosis.) The reasons why such cases do not do so well as cases of large cysts is clear. The factor of the removal of intra-abdominal pressure is absent here, and, in addition, we have a

long operation, involving considerable handling of the pelvic viscera, and usually the escape of septic matter into the peritoneal cavity, necessitating irrigation and drainage. The long operation and the handling of the abdominal viscera promote shock, and such patients are apt to die from suppression of urine. I speak from an experience of two deaths.

Occasionally, women will have suppression of the urine after operation, even when no kidney disease exists. I have had one such case, in which the operation was very simple.

4. *The secretion of urine is diminished after operation for several days.*

This statement is a matter of universal observation. I have had records kept of the amount of urine passed by patients after abdominal section in all my cases. These records are practically accurate. In the time at my disposal, it was not possible to look through the entire list of cases, hence, I have selected the last fifty consecutive cœliotomies for tabulation. Dr. W. E. Parke, assistant in gynæcology at the Kensington Hospital for Women, has kindly prepared this table for me. We find that the patients pass, on an average, ten ounces of urine the first day after abdominal section ; fifteen ounces, the second day ; thirteen ounces, the third day ; fifteen ounces, the fourth day ; and nineteen

ounces, the fifth day ; after which time the amount gradually increases. There are certain sources of error in this table. The first day really includes only about eighteen hours, and is made up of that part of the day of the operation subsequent to the hour of operation, and the following night. The other days are twenty-four hours each. On the third day, at times, the amount of urine is estimated, because upon that day the patient's bowels move. With the free purgation, which is usually secured on that day, naturally the amount of urine secreted is less. The same slight source of error exists for the subsequent days. One patient died at the end of twenty-four hours. The smallest amount of urine passed on the first day was three ounces,—the largest amount thirty-three ounces. The smallest amount passed on the second day was six ounces,—the largest amount twenty-nine and a half ounces.

As illustrating what I have said with reference to the relation of the condition of the urine to operation, I will make brief reference to the following cases :

Case 1 illustrates the fact that suppression of urine may follow cœliotomy, even after simple operations in women having sound kidneys. This patient had healthy kidneys, and the operation consisted in removing the ovaries, the seat of chronic inflammation ; yet, on the third day, she

developed an acute nephritis, was extremely ill with uræmic symptoms, but fortunately recovered.

Case 2 illustrates the danger of death from suppression of urine, after even a simple cœliotomy, in women suffering with well-marked chronic kidney disease. This woman had small contracted kidneys, and was a physical wreck at the time of operation. The operation consisted in the rapid removal of a small ovarian tumor, and of a small par-ovarian tumor,—the operation consuming only fifteen minutes. In this case, the kidney disease had antedated the presence of the tumor, and the vitality of the woman was so reduced that the shock from even so simple an operation caused death from suppression of urine.

Case 3 illustrates the favorable issue of operations for large ovarian-cysts, when albumin and casts are found in the urine as a result of the pressure of the tumor. This patient was a feeble and greatly emaciated woman, who consulted me when the ovarian tumor was very large, quite nodulated, and very painful. The presence of albumin and granular casts in the urine, the nodular outline of the tumor, and the the fact that it caused great pain (giving rise to a suspicion of malignancy) caused me to give a guarded prognosis as to the issue of the operation. The patient's conclusion was that, as I could not promise

her positively that she would recover from an operation, she would live as long with the tumor as possible, and then have it out. She carried out this purpose literally, and it was not until her kidneys were greatly crippled, and that she was suffering with paresis of the bowels, and with orthopnea from the pressure of the growth, that she desired operation. The removal of the tumor was easily accomplished, and she made as good a recovery as any patient upon whom I have ever operated. Curiously, she passed very much more urine after her operation than is the rule; the first day, passing 29½ ounces; the second day, 13 ounces, which were measured, and very much more with bowel movements; the third day, 25½ ounces, etc. The condition of the urine constantly improved, and at the present time (three months after operation) it is perfectly normal.

Cases 4 and 5 illustrate the grave prognosis as to operations done for well-marked inflammatory conditions of the uterine appendages in women having serious chronic kidney disease. Case 4 had small contracted kidneys, and was the subject of both gonorrhœa and syphilis (tertiary). Her general health was fairly good. The operation consisted of the rapid enucleation of diseased uterine appendages from a pelvis absolutely filled up with exudate. The duration of the operation was thirty-five

minutes. She went to bed in good condition, did well for two days, then developed uræmic symptoms, and died on the fifth day.

Case 5 was, perhaps, the worst subject for a serious operation in my experience. She had been an invalid for several years, had albuminuria, due to large white kidneys, and was so debilitated at the time of operation that she had been confined to her bed for some weeks. This was one of my early operations, and I might here add that I should not operate at the present time upon such a patient for tubo-ovarian inflammatory conditions. The operation was extremely difficult and lasted forty minutes. Upon the left side, on addition to the diseased tube, a small intra-ligamentous ovarian-cyst (the size of an orange) was removed. When the tumor was enucleated from the broad ligament, the ureter came up with it. The ureter was separated, and dropped back. It was observed to be very much thickened, and the supposition was that the woman had a surgical kidney, which proved to be the case. Suppression of urine followed the operation, and she died on the third day.

Case 6 illustrates the fact that albuminuria, and even casts in the urine, when due to acute inflammatory conditions of the pelvis (and, personally, I believe that cystitis and nephritis are often induced by

suppuration connected with the uterine appendages), are not a bar to successful result after operations done for the removal of the diseased uterine appendages. Miss P., aged nineteen, contracted gonorrhœa in December, 1892. She had a sharp attack of pelvic peritonitis in that month, and a second one in January, and a third one in March. In April and May, she bled very freely from the womb, and, when I saw her in consultation, I found the bed elevated to prevent syncope.

Examination showed a large, fixed mass to the right of the womb, and a hard, doughy mass extending behind the womb, and to the left side of the pelvis. The history of the case, and the physical conditions present suggested a diagnosis of ruptured extra-uterine pregnancy. It was recognized, however, that the conditions might be due to tubo-ovarian inflammatory disease. This patient's urine contained a large amount of albumin and hyaline casts, but its specific gravity was 1,032. Operation showed a suppurating right ovarian tumor and double pyosalpinx. She made an uninterrupted recovery; passing 16 ounces of urine the first day; 15, the second; 16, the third; 18, the fourth, etc. The condition of the urine is now normal.

In conclusion, I would emphasize especially the following points:

1) The importance of the systematic ex-

amination of the urine of gynæcological patients, especially of those requiring cœliotomy.

2) That the presence of albumin and of casts in the urine need not affect the issue of the operation.

3) That serious and prolonged cœliotomies, involving much handling of the abdominal viscera, in women having chronic Bright's disease (especially the small contracted kidney), usually terminate fatally.

4) That the prognosis is best when the presence of albumin and casts in the urine is due to the pressure of a large ovarian cyst which can be rapidly removed.

PHILADELPHIA ; 2134 Hancock St.

Issued Monthly. **$2.00 per year.**

American Medico-Surgical Bulletin

A JOURNAL OF PRACTICE AND SCIENCE.

THE BULLETIN PUBLISHING COMPANY, 73 William St., New York.

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